

	Type.
<i>Atelodus</i> , Pomel, Ann. Sci. Auvergne, xxvi. p. 114 (1853)	<i>D. bicornis</i> .
<i>Rhinaster</i> , Gerrard, Cat. Bones Mamm. B. M. p. 282 (1862)	<i>D. bicornis</i> .
<i>Keitloa</i> , Gray, t. c. p. 1025	<i>D. bicornis</i> .
<i>Ceratotherium</i> , id. t. c. p. 1027	<i>D. simus</i> .

Two-horned. Occipital plane slanted backward. Auditory region as in *Dicerorhinus*. Incisors and canines rudimentary or absent.

1. *D. bicornis* Linn.

2. *D. simus* Burch.

Should *D. simus*, on the ground of its much longer skull and the different structure of its molars, be separated generically or subgenerically from *D. bicornis*, it and its fossil allies would have to bear the name of *Cælodonta*, Bronn.

These conclusions are practically identical with those to which Sir W. Flower came in his classical paper on the craniology of the group (P. Z. S. 1876, p. 443), but unfortunately his study of the nomenclature did not carry him back to the names now shown to have priority.

2. On a small Collection of Fishes from Lake Victoria made by order of Sir H. H. Johnston, K.C.B. By G. A. BOULENGER, F.R.S.

[Received May 21, 1901.]

The Fishes which have reached the Natural History Museum from the Victoria Nyanza through Sir H. H. Johnston are referable to seven species only, four of which were previously unrepresented in the National Collection, two being besides new to science.

1. PROTOPTERUS ETHIOPICUS Heck.

Three specimens, two adult measuring 1 m. 35 and 1 m. 10, and a young one measuring 160 millim. The latter was taken from the crop of a *Balaniceps*.

In the adult specimens the length of the head is contained $4\frac{2}{3}$ times in the length from snout to vent, the diameter of the eye is 15 or 20 times in the length of the head and $4\frac{1}{2}$ or $5\frac{1}{2}$ times in the interocular width; dorsal fin originating nearer the vent than the head; pectoral fin twice length of head, ventral fin $1\frac{2}{5}$; vent sinistral; 65 scales in a longitudinal series to above vent, 44 or 50 round middle of body; no traces of external gills. The scales show very distinctly the punctulations of *ganoine* already noticed by Kölliker.

In the young the length of the head is 4 times in the length from snout to vent, the diameter of the eye 8 times in the length of the head and twice in the interocular width; dorsal fin originating a little nearer the vent than the head; pectoral fin $2\frac{1}{2}$ length of head, ventral fin $1\frac{2}{3}$; vent dextral; about 65 scales in a longitudinal series to above vent and 40 round middle of body; no traces of external gills.

2. *MORMYRUS KANNUME* Forsk.

3. *LABEO VICTORIANUS*, sp. n.

Body compressed, its depth equal to length of head and contained $4\frac{1}{2}$ to $4\frac{2}{3}$ times in total length. Head $1\frac{1}{2}$ as long as broad; snout rounded, strongly projecting beyond the mouth, with small horny warts; eye perfectly lateral, in the middle or a little anterior to the middle of the head, its diameter 6 to $6\frac{1}{2}$ times in length of head, 3 to $3\frac{1}{2}$ times in width of interorbital region, which is slightly convex; width of mouth, with lips, not much more than half greatest width of head, $2\frac{1}{2}$ to $2\frac{3}{4}$ times in length of head; rostral flap and anterior border of lip not denticulated; posterior border of lip very indistinctly denticulated; inner surface of lip with numerous transverse plicæ, formed of closely-set obtuse papillæ; a minute barbel, hidden in the folds at the side of the mouth. Dorsal III 9-10, with notched upper border; the longest ray equals the length of head; fin equally distant from the end of the snout and the root of the caudal. Anal II 5; longest ray about $\frac{2}{3}$ length of head. Pectoral subfalciform, as long as head, not reaching base of ventral. Ventral not reaching vent, its first ray falling under the seventh (fourth branched) ray of the dorsal. Caudal deeply forked, with pointed lobes. Caudal peduncle about $1\frac{1}{2}$ as long as deep. Scales 38-39 $\frac{6\frac{1}{2}}{7\frac{1}{2}-8\frac{1}{2}}$; 4 or 5 series of scales between the lateral line and the root of the ventral. Olive above, whitish beneath; fins greyish.

Total length 285 millim.

Three specimens.

L. victorianus stands nearest to *L. forskalii*, from which the more perfectly lateral eyes and the smaller mouth easily distinguish it.

4. *DISCOGNATHUS JOHNSTONI*, sp. n.

Depth of body equal to length of head, 5 times in total length. Head moderately depressed, with nearly flat interorbital region; eye supero-lateral, in the second half of the head, its diameter $4\frac{1}{2}$ times in length of head, twice in interorbital width; two very short barbels on each side; width of mouth $\frac{1}{2}$ length of head; upper lip moderately developed, lower large, semicircular; no denticulate fringe to the lips. Dorsal II 7, equally distant from the nostrils and from the root of the caudal; first branched ray longest, $\frac{2}{3}$ length of head. Anal II 5; first branched ray longest, $\frac{3}{4}$ length of head. Pectoral $\frac{3}{4}$ length of head, widely separated

from the ventral, which is situated below the posterior half of the dorsal. Caudal a little shorter than head, with deep crescentic emargination. Caudal peduncle $1\frac{1}{4}$ as long as deep. Scales $38\frac{5\frac{1}{2}}{7\frac{1}{2}}$; 4 series between lateral line and root of ventral. Upper parts and fins blackish olive; lips, gular and pectoral regions yellowish white, belly brown.

Total length 110 millim.

A single specimen.

In its very minute barbels, this species is intermediate between *D. lamta* and allies, in which they are well developed, and *D. imberbis*, in which they are altogether absent. A species from Syria, Transcaspia, the Tigris, and Persia, *D. variabilis* Heckel, to which I refer specimens from Kushk and the Helmand¹, agrees in the very small size of the posterior barbels, but differs in the total absence of the anterior and also in the more backward position of the dorsal, which is equally distant from the occiput and the root of the caudal, the position of the eyes, which are nearly perfectly lateral and occupy the middle of the length of the head, and the longer caudal fin. The scales number 33 to 37 in the lateral line, 4 or 5 between the latter and the ventral fin.

In the Abyssinian and Erythrean specimens which have been previously referred to *D. lamta*², and for which I propose the name *D. blanfordi*, the barbels are much longer, as in *D. lamta*, the eye is perfectly lateral and a little anterior to the middle of the head, the interorbital width is more than half the length of the head, the dorsal is equally distant from the eye and the root of the caudal, or a little nearer the latter, which is longer than the head, the scales number 33-35 $\frac{5\frac{1}{2}}{6\frac{1}{2}}$, 3 or 4 between the lateral line and ventral fin.

A third African species has been described by Vinciguerra³ from Shoan specimens, under the name of *D. chiarinii*. It has two pairs of well-developed barbels, a larger eye (its diameter contained only $3\frac{1}{2}$ times in the length of the head), a little anterior to the middle of the head, and smaller scales (*L. lat.* 42).

I have recently received from Mr. Loat several small specimens, measuring from 38 to 45 millim., obtained on the Nile in a pond in the cataract country about 3 miles north of Kerneh, which approach *D. chiarinii* in the size of the eye ($3\frac{1}{2}$ diameters in length of head), the length and number of the barbels, and the position of the dorsal, but which may be distinguished from it by the larger scales, numbering 37 or 38 in the lateral line and 3 between the latter and the ventral. For this new species I propose the name *D. vinciguerræ*.

¹ Recorded by Günther, Tr. Linn. Soc. (2) v. 1889, p. 107, under the name of *D. lamta*. Recently described as *D. rossicus* by Nikolski, Ann. Mus. St. Petersb. v. 1900, p. 239.

² Blandford, Zool. Abyss. p. 460; Vinciguerra, Ann. Mus. Genova, xviii. 1883, p. 695, fig.

³ *L. c.* p. 696, fig.

5. CLARIAS LAZERA C. et V.

6. SYNODONTIS AFRO-FISCHERI Hilgend.

Hilgendorf, Sitzb. Ges. nat. Fr. Berl. 1888, p. 77; Pfeffer, Thierw. O.-Afr., Fische, p. 37 (1896).

The following description is taken from the single specimen sent by Sir Harry Johnston:—

Body compressed, its depth equal to the length of the head and contained $3\frac{2}{3}$ times in the total length. Head little longer than broad, granulate above, the granulate area extending on the snout to half-way between nostrils and eyes; frontal fontanelle large; snout rounded, a little shorter than postocular part of head; interorbital region slightly convex, its width half length of head; eye supero-lateral, its diameter 5 times in length of head, twice in interorbital width; occipital region neither keeled nor tectiform, simply convex. Lips moderately developed; maxillary barbel simple, a little longer than the head, extending to anterior third of pectoral spine; mandibular barbels inserted on a straight transverse line, the outer $\frac{2}{3}$ length of head and with slender simple branches, the inner $\frac{1}{2}$ length of head and with shorter but ramified branches. Præmaxillary teeth small and numerous, forming a broad band; anterior mandibular teeth small, curved, $\frac{2}{5}$ the diameter of the eye, 44 in number. Gill-cleft not extending inferiorly beyond the base of the pectoral fin. Nuchal shield convex, not keeled, rugose and pitted, $1\frac{1}{2}$ as long as broad, ending in two sharp points, which extend a little beyond the base of the dorsal spine. Humeral process covered with granular asperities, about $1\frac{1}{2}$ as long as broad, sharply pointed, not extending quite so far back as the occipito-nuchal shield. Skin villose on the sides of the anterior part of the body. Dorsal I 7; spine strong, $1\frac{2}{3}$ as long as the base of the fin, nearly as long as head, striated and armed behind with 11 retrorse serræ. Adipose dorsal $3\frac{1}{2}$ times as long as deep, $1\frac{1}{3}$ as long as its distance from the rayed dorsal, $\frac{3}{4}$ the length of the head. Anal III 8. Pectoral spine very strong, as long as that of the dorsal, striated, with 31 to 33 strong teeth on the anterior border and 11 much stronger still and retrorse on the posterior border. Ventral not reaching anal. Caudal very deeply notched, crescentic. Dark brown above and beneath, with some lighter, yellowish-brown marblings; fins dark grey, with transverse series of blackish spots having a tendency to form cross-bars.

Total length 135 millim.

7. PARATILAPIA SERRANUS.

Hemichromis serranus, Pfeffer, Thierw. O.-Afr., Fische, p. 23 (1896).

Paratilapia serranus, Bouleng. Proc. Zool. Soc. 1898, p. 143.

Adult specimens, measuring 125 millim., agree well with Pfeffer's description, drawn up from an example obtained by Stuhlmann at Bukoba, a German station of L. Victoria at about

1° 21' S. lat, except for the depth of the body, which is $4\frac{1}{2}$ to $4\frac{2}{3}$ times in the total length, the maxillary not extending quite to below the anterior border of the eye, the diameter of which is $4\frac{1}{2}$ times in the length of the head. 9 gill-rakers on lower part of anterior arch. D. XV-XVI 9; A. III 8-9; Sq. 30-32 $\frac{4-5}{12-13}$; Lat. I. 20-21/13-14. 6 or 7 scales between the first dorsal spine and the lateral line.

Smaller specimens (85-95 millim.) differ in the smaller head, the larger eye ($3\frac{1}{2}$ -4 times in length of head), and the lower jaw not projecting beyond the upper. The dark longitudinal bands are very indistinct and are traversed by 7 or 8 ill-defined dark cross-bars.

In all the specimens the ventral fins are of a bright yellow.

3. On the Structure and Affinities of *Udenodon*.

By R. BROOM, M.D., B.Sc.¹

[Received May 21, 1901.]

(Plates XVI.-XVIII.)²

(Text-figures 10 & 11.)

A considerable number of skulls of *Udenodon* and of the closely allied genus *Dicynodon* have long been known, and there have also been found many other bones of the skeletons; but as in almost all the specimens the association of the skull and other bones has been quite lost, it is at present impossible to refer limb-bones to their proper species of which the skulls are the types, and it is only with some doubt that they can be referred even to their proper genera. In a few cases some bones of the skeleton have been found in association with *Dicynodon*-skulls, but in the case of *Udenodon* the post-cranial skeleton is quite unknown.

The most important specimen in which the *Dicynodon* skull is in association with a considerable portion of this is the little form which has been described by Seeley (1) as "*Keirognathus cordylus*." In this specimen the skull, upper vertebrae and ribs, front limbs, shoulder-girdle, and sternum are shown, but all in a very bad state of preservation. There is scarcely a doubt that the skeleton is that of a young *Dicynodon*, and it is specially valuable as showing the relations of the shoulder-girdle, sternum, and interclavicle. Seeley's restoration is unsatisfactory.

In the Lower Karroo beds of Pearston, S. Africa, while the remains of various species of *Dicynodon* are met with, the genus which most commonly occurs is *Udenodon* and from the specimens which I have recently discovered I am now in a position to give an almost complete account of its skeleton.

¹ Communicated by Prof. G. B. HOWES, LL.D., F.R.S., F.Z.S.

² For an explanation of the Plates, see p. 190.